

Rim Fire Restoration Stanislaus National Forest

News

May, 2015

flash

- ▶ INITIAL ATTACK RESPONSE ON THE RIM FIRE...PG. 1
- ▶ FIRE TERMINOLOGY & MEET YOUR LOCAL FIREFIGHTER...PG. 2
- ▶ FIRE RESTRICTIONS & BREAKING THE CATASTROPHIC CYCLE OF FIRE...PG. 3
- ▶ MEADOW HEALTH & FUEL TREATMENTS...PG. 4

Initial attack response on the Rim Fire...

Questions often arise after a mega-fire, like the Rim Fire, burns through an area. Residents want to understand environmental conditions, fire behavior and the initial attack response of fires they have witnessed. In a fire-prone area, understanding these elements is an important aspect of becoming a fire-adapted community.

The Rim Fire, which was spotted at 3:25 in the afternoon, was the third fire that U.S. Forest Service firefighters had responded to on August 17, 2013, on the Stanislaus. Due to unfavorable weather conditions, dispatch initiated the maximum pre-planned response when the fire was discovered by passing aircraft. Within minutes, the fire ballooned to 40 acres and was reported to be growing at a “dangerous rate of spread.”

Tanker 82 was on scene at 3:47 p.m. dropping retardant (slurry). Within the first 4.5 hours of the fire fight, 32,021 gallons of slurry were dropped in an effort to cool off the flaming front. The intention was to slow down the fire spread, while seeking safe opportunities for hand crews to establish an anchor point for fireline construction.

By 4 p.m., the Initial Attack Incident Commander (IC) had completed a size-up. The blaze had already grown to 150 acres and was spotting a quarter of a mile in advance of the main head of the fire. Six engines, two helicopters, one air attack, four tankers, one lead plane, and two dozers rapidly made their way to the fire on the initial callout. Even with these forces on hand, the IC quickly determined that local resources would not be able to hold the fire due to the extreme fire behavior. An incident management team was ordered while staff began evacuations for those in imminent danger.

With no escape routes or safety zones, it was deemed too dangerous to engage the fire directly on the steep, chamise-covered slopes of the Clavey River. Instead, the plan was to box the fire in and set up a series of contingencies in case the box did not hold.

Eventually the fire grew to 257,314 acres and 5,000 people engaged in the battle to put the fire out. Fifty-five percent of the Groveland Ranger District burned along with 11 homes, 98 outbuildings and 3 commercial properties. The fact that no one was killed on the fire is the fire's very best success story. Though saving homes is important, it can never stack up to the fact that at the end of one of the worst firefighting battles in California's history, every single firefighter returned home to their families.



The Rogge Ranch home was one of the properties that U.S. Forest Service firefighters were able to save. To learn more about the heroic effort made here as well as in Quilty Creek, read the firefighting article at: <http://www.fs.usda.gov/detail/stanislaus/home/?cid=stelprd3814207>



Understanding fire on its own terms

Understanding fire means coming to grips with fire terminology. Though this may seem daunting at first, learning the lingo will help you to comprehend fire reports, news stories and information on inci-web. Becoming fire savvy enables residents in the wildland-urban interface to learn about the area they live in, along with the risk factors inherent in their surrounding environment.

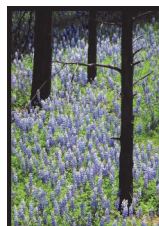
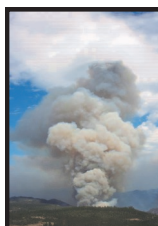
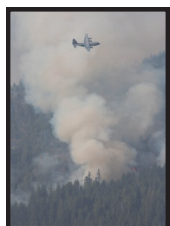
Fire Return Interval (FRI): Every area has a normal fire return cycle that can be determined from studying fire scars imbedded in tree rings, a science known as dendrochronology. By examining the fire scar history over a lengthy period of time, it becomes obvious how often fires have happened in the past along with the average length of time between fire events. Departures from the FRI can be caused by suppression efforts, resulting in a build-up of fuel on the forest floor.

Energy Release Component (ERC): The ERC gives fire managers an idea of how much energy, in British Thermal Units, there is available for release at the head of the fire. Fuel moisture levels in live and dead plants affect this indices and the longer a drought lingers in an area, the higher the ERC will rise. Fire intensity is likely to climb in conjunction with an escalating ERC.

Burning Index (BI): This fire indices predicts the potential difficulty of fire containment as it relates to the flame length at the head of the fire. It takes into account how fast a fire will spread along with the amount of energy the fire can produce (ERC). You can divide that BI by 10 to calculate the anticipated flame length, in feet, at the head of the fire. Wind is one factor that can readily impact the BI. Determining the BI is important to fire managers because it helps them to determine the effectiveness of different fire resources given the current conditions.

Residence Time: The total length of time the flaming front of the fire occupies is in contact with the surface of the ground. Residence time can be vastly increased when many heavy logs burn on the forest floor. This is one reason the Forest wanted to remove heavy fuel loads left by the Rim Fire. Increased residence time can cause serious effects to soil chemistry and its ability to absorb water.

More fire terms are available at: <http://www.nwcg.gov/pms/pubs/glossary/glossary.htm>



Get to know your local fire personnel

“As we head into the 2015 fire season,” said Rob Laeng, Acting Fire Management Officer for the Stanislaus, “take a moment to get to know your local fire personnel.”

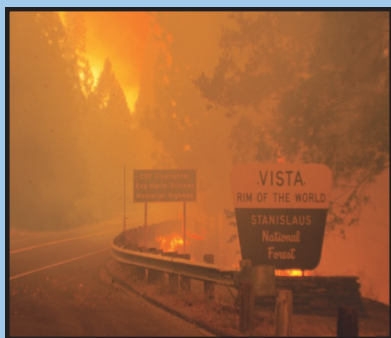
“The number one mission of our employees,” said Laeng “is to keep the public safe when wildland fires burn through the forest. The knowledge they can share with you can’t be measured.” That experience also helps to keep them out of harm’s way when conditions are extreme, as in the case of the Rim Fire.

“When it comes to understanding fuels and fire behavior, our helitack, engine crews and hotshots are well trained and they have depth of experience,” said Laeng. “In a wildland-urban interface such as we have in California, that level of experience is important. Other key firefighters include our dedicated prevention staff. Early detection, such as spotting untended campfires, can stop a wildfire from happening. Our prevention staff excels in this area. They are also responsible for educating the public and school children on preventing unwanted fires.”



As large fires grow across the west, and fire behavior increases due to the long-term drought, seasoned fire personnel will become valued community resources.

Why fire restrictions are important



The Rim of the World is a key location to view the effects of the Rim Fire, which was caused by an illegal campfire ignited despite fire restrictions. Interpretive panels are being created to tell the story of the fire and will be placed at this vista upon completion.

Fire restrictions for all of the Stanislaus are listed online: <http://www.fs.usda.gov/alerts/stanislaus/alerts-notice> Scroll down to the “alerts” section for details.

Fire restrictions prohibit such things as the use of campfires, briquette barbecues and smoking outside of developed campgrounds. Welding and blasting are also limited except where special permits have been granted.

Restrictions such as these are only put in place when several critical factors indicate that an escaped fire would have an excellent chance to spread and become problematic.

These factors include a Burning Index of 60 or greater for three consecutive days, showing that there is an upward trend in the potential for large fires to form. When fuel moisture levels drop below 100 percent in manzanita or less than 80 percent in chamise, this also triggers concern. When large logs contain less than 14 percent moisture that drives up the Energy Release Component (ERC). If the ERC hits 70 or greater, that alerts fire managers to the fact that a great deal of energy would be available for release at the head of a fire.



Breaking the cycle of catastrophic fire

Breaking the cycle of catastrophic wildfires in the west is going to require a road map for the future that includes restoration, partnerships, public education and innovative thinking. **Ecological restoration**, a current core value for the U.S. Forest Service, addresses imbalances on public lands that are paramount to restoring health. Restoring the landscape is the first step the agency is taking to alter the catastrophic fire cycle on the Stanislaus National Forest.

Restoration is important because mega-fires are taxing agency resources and their occurrence is growing across the west for a variety of reasons such as increasingly heavy fuel loads, drought and climate change. In 1995, 16 percent of U.S. Forest Service appropriations went towards fighting wildland fires. By 2014, that percentage rose to 42 percent. Meanwhile, the agency’s total budget has remained relatively flat, leaving less funding for proactive efforts such as: ecological projects, thinning and prescribed burning, according to a USDA report issued in 2014. These proactive measure are the very things that can assist the agency in breaking the catastrophic cycle of fire that is currently plaguing them.



Building community is important to the Stanislaus...



Restoring vibrancy and resiliency to our National Forests is a community effort. So many wonderful organizations have helped the Forest Service along the road to recovery. A few are highlighted below.

- ◆ The Sierra Foothills Chapter of the California Native Plant Society recently donated materials to help save Mountain Lady Slipper Orchids, which were heavily impacted by the Rim Fire.
- ◆ The Sierra Nevada Conservancy has made a commitment to help us remove tree debris (biomass) that is currently inhibiting travel routes frequented by local migratory deer herds.
- ◆ The Wildlife Conservation Board is a partnership we are courting to improve wildlife habitat on the forest.
- ◆ A continued thanks goes to the Yosemite Stanislaus Solutions group for collaborating on large scale projects and providing insight from the community.

Breaking the Cycle, continued



In a post-fire environment, the importance of meadows cannot be overestimated. Meadows help filter flood waters, trapping sediment and other pollutants. A costly lesson can be learned from the City of Denver. In 2002, the Hayman Fire in Colorado burned 138,000 acres and deposited more than 1 million cubic yards of sediment into the Strontia Springs Reservoir which feeds water into the city. Cleaning up the post-fire problem has cost more than \$150 million dollars.

Millions of acres are held in trust by land management agencies. We are all called to form cross-boundary relationships with those entities that stand to benefit from improved forest and watershed health so the pace and scale of restoration projects can be increased.

Work of this scope requires collaboration. To out-pace degrading landscapes in California, six to nine million acres of National Forest lands need to be restored in the next 15 to 20 years.

“Though we are trying to create healthier forests and more resilient landscapes,” said Randy Moore, Regional Forester, U.S. Pacific Southwest Region, “the pace of the disturbance is currently out-running our efforts. It would take an unprecedented scale of ecological restoration on National Forest lands to alter the direction of current trends.”



Fuel treatments can also help to break the cycle

Putting money into fuel treatments up front can save damage to homes, infrastructure and public utilities. The Mokelumne Watershed Avoided Cost Analysis (MACA) is a detailed, analytical study that indicates modeled fuel treatments reduced the size of five different fires by 30-76 percent. Catastrophic, high-intensity fire acreage was reduced by 75 percent using the same modeled scenario. Economic benefits from strategically located fuel treatments could equal three or more times the cost involved in putting the fuel breaks in place, according to the report. Even at the low end of their estimates, there is nearly a 2:1 payoff in treating fuels proactively. (Buckley, et al, 2014). **To learn more, read the article in full at:** <http://www.fs.usda.gov/detail/stanislaus/home/?cid=stelprd3833908>

Restoration

Ecologically healthy and resilient landscapes, rich in biodiversity, will have greater capacity to adapt and thrive in the face of natural disturbances and large-scale threats to sustainability. This is especially true under changing and uncertain environmental conditions.

Partnerships

By joining forces with government agencies, tribes, private property owners, and the industries typically impacted by fire, such as water and electric utilities, we all stand to benefit. Healthy forests provide many services to the public.

Education

Increasing awareness of the value of public lands through a variety of educational opportunities is the third paradigm shift needed to move forests from reactivity to proactivity. When huge fires happen, many of the things people love about National Forests are disrupted, damaged or closed.

